

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claim 1. (Previously Presented) An animal-feed additive based on a fermentation liquor, comprising:

- a) one or more cysteine compounds selected from the group consisting of L-cysteine, L-cystine, thiazolidines, and salts thereof, and
- b) from 2 % to 100 % of other non-cellular ingredients of the fermentation liquor.

Claim 2. (Currently Amended) An animal-feed additive based on a fermentation liquor, comprising:

- a) a thiazolidine or a combination of a thiazolidine together with at least one of L-cysteine, L-cystine, and salts thereof ~~and combinations thereof~~, and
- b) from 2 % to 100 % of other non-cellular ingredients of the fermentation liquor.

Claim 3. (Previously Presented) The animal-feed additive according to Claim 1 or 2, wherein the thiazolidine is one or more compounds selected from the group consisting of 2-methyl-thiazolidine-2,4-dicarboxylic acid, 2-carboxymethyl-thiazolidine- 2,4-dicarboxylic acid, 2-carboxyethyl-thiazolidine-2,4-dicarboxylic acid, and thiazolidine-2,4- dicarboxylic acid.

Claim 4. (Previously Presented) The animal-feed additive according to Claim 1 or 2, wherein the salt of the cysteine compound is one or more salts selected from the group consisting of the sodium, potassium, ammonium, magnesium and calcium salt.

Claim 5. (Canceled)

Claim 6. (Currently Amended) The animal-feed additive according to ~~Claim 5~~
Claim 1, wherein said the fermentation liquor contains a biomass ~~ranges~~ in an amount of ~~>0~~
% ranging from >2 % to ≤50 % in the animal-feed additive.

Claim 7. (Currently Amended) The animal-feed additive according to ~~Claim 5~~ Claim
1, wherein said the fermentation liquor contains a biomass ~~ranges~~ in an amount of ranging
from >50 % to 100 % in the animal-feed additive.

Claim 8. (Currently Amended) The animal-feed additive according to Claim 1,
wherein said cysteine compound or salt thereof[[,]] is present in the feed in an amount
ranging from 1 to 98 wt. %.

Claim 9. (Previously Presented) The animal-feed additive according to Claim 1 or 2,
which further comprises one or more chemical compounds selected from the group consisting
of glutathione, cystathionine, biotin, thiamin, liponic acid, coenzyme A and L- methionine.

Claim 10. (Previously Presented) The animal-feed additive according to Claim 1,
which is in liquid form.

Claim 11. (Previously Presented) The animal-feed additive according to Claim 1, which is in solid form.

Claim 12. (Withdrawn) A process for the production of a feed additive, comprising:

- a) separating a biomass completely from a fermentation liquor containing cysteine compounds selected from the group consisting of L-cysteine, L-cystine, thiazolidines, and salts thereof, and
- b) optionally concentrating the mixture so obtained by removal of water.

Claim 13. (Withdrawn) A process for the production of a feed additive that is low in biomass, comprising:

- a) separating virtually all or at least the predominant part of the biomass from a fermentation liquor containing cysteine compounds selected from the group consisting of L-cysteine, L-cystine, thiazolidines, and salts thereof, and
- b) optionally concentrating the mixture so obtained by removal of water.

Claim 14. (Withdrawn-Currently Amended) A process for the production of a feed additive that is rich in biomass, comprising:

- a) leaving all or the majority [()] of the biomass in a fermentation liquor containing cysteine compounds selected from the group consisting of L-cysteine, L-cystine, thiazolidines, and salts thereof, and
- b) optionally concentrating the mixture so obtained by removal of water.

Claim 15. (Withdrawn) The process according to Claim 12, 13 or 14, which further comprises:

(c) preparing the feed additive product by drying, spray drying, spray granulating and granulating the fermentation liquor obtained.

Claim 16. (Withdrawn) The process according to Claim 15, wherein, for the preparation of the fermentation liquor containing cysteine compounds, L-cysteine-producing bacteria, fungi or yeasts are cultivated in said fermentation medium.

Claim 17. (Withdrawn-Currently Amended) The process according to Claim 16, which further comprises one or more of the following steps:

- d) electrochemically reducing (~~electrolysis~~) L-cystine to L-cysteine in one or both of steps a) and b);
- e) acidifying the fermentation medium with a concentrated mineral acid in one or both of steps a) and b);
- f) adding a reducing agent to the fermentation medium of one or more of steps a), b) and c);
- g) protecting the fermentation medium with a gas in one or more of steps a), b) and c);
- h) adding an oxidizing agent to the fermentation medium of one or more of steps a), b) and c);
- i) adding one or more cysteine compounds selected from the group consisting of L-cysteine, L-cystine and thiazolidines to the fermentation medium of one or more of steps a), b) and c), the added amount of cysteine compound being such that the total concentration thereof, optionally including its salts, in the animal-feed additive is in the range from 1 to 98 wt.%;

j) adding auxiliary substances to the fermentation medium of one or more of steps a), b) and c), for stabilization and increasing storability, selected from the group consisting of silicas, silicates, stearates, meals, brans, cereal flours, flours, silicas, silicates, starches and sugars; or

k) converting the substances obtained according to steps c) to j) into a form stable in an animal's stomach by coating the feed with a film-forming agent.

Claim 18. (Withdrawn) The process according to Claim 17, wherein the mineral acid is sulfuric acid.

Claim 19. (Withdrawn) The process according to Claim 17, wherein the reducing agent is one or more chemical compounds selected from the group consisting of vitamin C, vitamin E, formic acid and salts thereof.

Claim 20. (Withdrawn) The process according to Claim 17, wherein the oxidizing agent is at least one chemical compound selected from the group consisting of oxygen and hydrogen peroxide.

Claim 21. (Withdrawn) The process according to Claim 17, wherein the protecting gas is nitrogen.

Claim 22. (Withdrawn-Currently Amended) The process according to Claim 17, wherein the film-forming agent is one or more substances selected from the group consisting of metal carbonates, silicas, silicates, alginates, stearates, starches, rubbers ~~or~~ and cellulose ethers.

Claim 23. (Currently Amended) An animal-feed additive produced by a according to the process of Claim 12, 13 or 14 comprising:

a) separating a biomass completely from a fermentation liquor containing cysteine compounds selected from the group consisting of L-cysteine, L-cystine, thiazolidines, and salts thereof, and

b) optionally concentrating the mixture so obtained by removal of water.

Claim 24. (Previously Presented) The animal-feed additive according to Claim 23, which comprises from 1 wt.% to 98 wt.% of one or more cysteine compounds selected from the group consisting of L-cysteine, L-cystine, thiazolidines, and optionally salts thereof.

Claim 25. (Currently Amended) The animal-feed additive according to Claim ~~2~~ 23, wherein the thiazolidine content is at least 0.001 wt.%.

Claim 26. (New) An animal-feed additive produced by a process, comprising:

a) separating virtually all or at least the predominant part of the biomass from a fermentation liquor containing cysteine compounds selected from the group consisting of L-cysteine, L- cystine, thiazolidines, and salts thereof, and

b) optionally concentrating the mixture so obtained by removal of water.

Claim 27. (New) The animal-feed additive according to Claim 26, which comprises from 1 wt.% to 98 wt.% of one or more cysteine compounds selected from the group consisting of L-cysteine, L-cystine, thiazolidines, and optionally salts thereof.

Claim 28. (New) The animal-feed additive according to Claim 26, wherein the thiazolidine content is at least 0.001 wt.%.

Claim 29. (New) An animal-feed additive produced by a process, comprising:

- a) leaving all or the majority of the biomass in a fermentation liquor containing cysteine compounds selected from the group consisting of L-cysteine, L-cystine thiazolidines, and salts thereof, and
- b) optionally concentrating the mixture so obtained by removal of water.

Claim 30. (New) The animal-feed additive according to Claim 29, which comprises from 1 wt.% to 98 wt.% of one or more cysteine compounds selected from the group consisting of L-cysteine, L-cystine, thiazolidines, and optionally salts thereof.

Claim 31. (New) The animal-feed additive according to Claim 29, wherein the thiazolidine content is at least 0.001 wt.%.